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ORIGINAL ARTICLES.

THE TREATMENT OF ALCOHOLISM.

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So long ago as 1790, Dr. Benjamin Rush, of Philadelphia, then perhaps the foremost American physician, advocated the theory that alcoholism is a disease, requiring both medical and moral treatment. In 1809, he published two essays on "The influence of physical causes upon moral faculties," and "An inquiry into the effects of ardent spirits upon the human body and mind," in which he elaborated this theory. In 1812, he published a work on "Diseases of the mind," in which he recommended "the establishment of a hospital in every city and town in the United States for the exclusive reception of hard drinkers;" who are, he adds, "as much objects of public humanity and charity as mad people; and religious, moral and physical remedies should be employed for the complete and radical cure of their disease."

He was thus one of the first to recognize the disease of alcoholism. And, so far as his conception of the character of the disease is concerned, and the nature of the remedies required for its cure, they have hardly been improved upon to this day.

It was, however, more than half a century from this time before the first step was taken toward the realization of his plan, in the establishment of the pioneer asylum for the scientific medical treatment of alcoholic inebriety, at Binghampton, New York, in 1864, under the management of Dr. J. Edward Turner, of Maine. In 1870, the American Association for the Study and Cure of Inebriates was organized in New York City, having for its fundamental principle the declaration that "inebriety is a disease, and should be treated as such." Seven years later the *Journal of Inebriety* was established as the organ of this society. This journal, published in Hartford, under the management of Dr. T. D. Crothers, has been the medium through which most of the literature pertaining to this subject has found its way to the American public—at least until within a few years past. To its columns must be referred all who desire to study the opinions of the foremost thinkers of the age concerning the disease of inebriety and its scientific medical treatment.

Within the past few years the subject

of the disease of alcoholism and its medical treatment has been brought prominently to the notice of both the general public and the medical profession, by the rise, progress and decline of the so-called "gold cure" of Dr Leslie E. Keeley.

Dr. Keeley's conception of the nature of inebriety, which he limits to "the cry of the nerve-cells for alcohol," and which he claims to be in no sense hereditary, is quite unlike that which is advocated by the American Association for the Study and Cure of Inebriates; while his egotistic dictum, "Inebriety is a disease, and *I can cure it*," his absurd claims of 100 per cent of cures and not over 5 per cent. of relapses, his use of secret formulæ, and his offensive and unprofessional methods of advertising, all stamp him as a charlatan and pretender of the first degree, rather than a scientific physician and lover of truth. As to the merits of his treatment, and the reality of the cures effected by him and those who have followed in his footsteps, it must in all honesty be said that many thousands of sober men who once were drunkards—a large proportion of them members of our own profession—have testified in their favor from personal experience.

For my own part, a considerable observation of these results, and some degree of investigation into the methods employed, have convinced me that, mixed with a vast amount of humbug and absurdity, the Keeley cure and kindred secret systems have in them much that is of real merit, and which is worthy of being appropriated for the benefit of scientific medicine.

Not the least of the good with which I believe they must be credited, consists in their having brought home to the popular mind the conviction that the drunkard's unnatural appetite for alcohol can be removed by proper medical treatment; and also in having greatly stimulated efforts on the part of the regular medical profession to obtain a more perfect knowledge of the pathology and treatment of alcoholic inebriety.

It is true that there is nothing new about the idea of the curability of alcoholism, which, as I have shown, has been held by eminent physicians for a hundred years. Neither is there anything essentially secret about the remedies employed, as is shown by the equally good results which have been obtained by Keeley and by those who have imitated him. Indeed, it is safe to say that a fairly complete knowledge of the different secret systems, extending, in some cases, even to the exact formulæ employed, is open to any one who cares to take the time and pains to search for it.

Undoubtedly, the most important of all the drugs employed is strychnine. Its well-known properties point the way to its use in this disease. It is the most powerful nerve-tonic known to the medical profession. It acts upon the entire nervous system, with a special tendency to the spinal nerves, and the cardiac, respiratory and vaso-motor centres. It exalts the functions of the spinal cord and renders the mind more clear and active. It increases intestinal peristalsis, and aids elimination.

Briefly stated, its basic action is almost directly antagonistic to that of alcohol. It is a tonic and a true stimulant, as opposed to an anesthetic and a paralyzant. Surely this is an agent which can be used with advantage in the treatment of alcoholism. The system of the inebriate is relaxed in every part, paralyzed in a greater or less degree, unable to carry on its functions properly. Mentally and physically, the drunkard is dull, nerveless, incapable. There is no better description of an acute case of alcoholism than that of the gamins on the street, when they say of the drunkard, "He is paralyzed." Not more truly could this be said of the subject of anesthesia, unconscious under the surgeon's knife. In his moments of comparative sobriety, his paralysis is less evident to the eye, less complete in degree, but just as real. Drunk or sober, this is the essence of the inebriate's condition, that he cannot control himself. His faculties are all there, perhaps, but he cannot use them. He has less vigor and endurance; his hands cannot do fine work, or execute delicate movements. His mind is less clear, and does not obey his will. His moral sense is weakened; it no longer clearly perceives right and wrong, or when perceived does not control his conduct. Instead of that will-

power, which is the glory of manhood, the motive force which controls his actions is the craving for alcohol. To this he is an abject slave, and for it he will descend to any level of shame or disgrace.

It is in such a condition as this that strychnine finds its proper field of work. By its use the tissues are revivified. As a result of its action, every nerve and muscle is keyed to its highest pitch; the mind acts more clearly; the man is raised out of his soddenness and indifference; the world takes on fresh colors; life begins to possess new interest. Even the special senses are stimulated—the sense of smell in particular being rendered abnormally active. The feeling of depression and inability gives way to one of lightness and elasticity. The terrible craving for alcohol, that dull, horrible gnawing at the stomach, that fearful, all-gone sensation, which in the drunkard's previous experience is relieved by nothing but some form of alcoholic drink, begins to grow less, and soon disappears; while in its place comes a sense of well-being, of elevation, of ability, of power to accomplish, which is quite unlike that false sense of confidence which comes with the first glass of intoxicants, and so much superior to it that the man would not willingly drown it in alcohol. Now the appetite is gone, and the man no longer seeks or desires that for which but yesterday he would have periled body and soul. To this succeeds a feeling of disgust, of repugnance to the taste or the very smell of all kinds of spirituous liquors, which cannot, in most cases, be any longer retained upon the stomach.

Food is now demanded instead of whisky. The stomach returns to its natural condition. Food is not only taken, but assimilated, and the system is nourished. Sleep comes again to the long-time sleepless wretch. The body is built up, lost flesh regained. Even the will-power and the moral nature seem to be stimulated. Yet, after all, when we come to analyze it, the effect is only a strongly-marked example of what we are familiar with in patients recovering from chronic, wasting and debilitating diseases, and shows simply that the whole physical system is being built up, and the man restored to health.

The use of strychnine in alcoholism, as I have said, is not due to Dr. Keeley or his "cure." Many even question whether it finds any place in his treatment. While some of the effects which we have described are evident in the graduate of the Keeley Institute, others are as noticeably absent. But be that as it may, it was in use before his day, and in lands where his name has not, even yet, become a household word. It is the basis of the so-called Russian method, which is perhaps the oldest of the specific modes of treating alcoholism. Dr. Portugalow, of Samora, in Austria, so early, I think, as 1890, reported that he had treated and actually cured 455 cases of dipsomania with hypodermatic injections of strychnine nitrate. He expresses his unbounded confidence in the remedy by saying that "he knows of reliable and specific remedies for two affections only: strychnine for the various forms of alcoholism, and quinine for malarial fevers."

About the same time Dr. W. N. Jergolski published his experience with the strychnine treatment of dipsomania. His cases numbered but ten, but included men of widely-different vocations—as farmers, merchants, ministers, etc. His results were most surprising. Topers who had been addicted to drink for many years, some of them even for decades, as a result of this treatment, became endowed with an invincible repugnance for alcohol, and could no longer bear spirituous liquors. Not only this, but serious and long-standing complications, such as intestinal catarrh and incontinence of urine, disappeared entirely, and the subjects were restored to health.

In our own county, many cases have been reported of this treatment within the last few years.

Dr. R. M. Phelps, of the Minnesota Hospital for the Insane, reports in the *Hospital Bulletin* the result of his investigations and experiments, as follows:—

1. Nitrate of strychnia, taken steadily in large doses, has a tendency, first, to impair the appetite for liquor; later, to make liquor an incompatible or sickening agent for the time being.

2. The systemic effects of nitrate of strychnia seem to be not injurious; yet

I would be far from advising any private or indiscriminate use.

In the *Journal of Inebriety* for January, 1894, Dr. J. Bradford McConnell reports in detail twenty-five cases of alcoholism treated mainly with strychnine nitrate hypodermatically. Other remedies were given internally, but not for their specific effects. His conclusions were, that simultaneously with the use of this remedy, the craving for alcohol in inebriates diminishes, and in a few days is completely gone; also that through the withdrawal of the poisonous beverages and the tonic effects of the strychnine, there is a more or less rapid restoration to sound physical health and mental power. But this desirable result did not prevent the relapse of a very large proportion of his cases within eleven months. Consequently, he considers that the inhibiting power of strychnine upon the appetite for alcohol is not permanent.

Dr. William B. Breed concludes an article on this subject in the *Medical News*, as follows:

1. We have in this drug a remedy that actually, for a period yet undetermined, removes the desire for alcoholic stimulation in the chronic inebriate, and that without the least effort on his part.

2. A remedy that removes the distress and gnawing at the epigastrium, so common upon the withdrawal of alcohol.

3. A remedy that tones up the nervous system, allays the insomnia, the flighty and other bad feelings in the head, the mental disturbances and the tremulous agitation and uncertainty of voluntary motion due to the withdrawal of stimulants.

4. A remedy that brings back the appetite and general physical vigor of the body.

5. A remedy that temporarily transforms a wholly demoralized creature into a man.

6. A remedy that is of great value in acute attacks of alcoholism.

7. Incidentally, a remedy that is an exceedingly good and safe heart tonic.

8. A remedy that exerts a moral (?) influence upon the patient, giving him what he had before wholly lost, to wit: hope, enthusiasm, self-confidence and courage, where before was despondency, abandonment and despair; a steady, straightforward gaze, and a bright, youthful expression of the eye, which replaces the shame-faced, sneaking, apologetic air of total depravity in the chronic inebriate.

9. *Not* a remedy which will oblige a man to abstain from drink if he does not want to.

The second drug which constitutes an essential element in the treatment of alcoholism, and the one next in importance to strychnine, is atropine, or some one of its associate mydriatics, as hyoscyamine or hyoscine, daturine, duboisine, or mandragorine. Atropine is the best representative of the class, and the most commonly used. In many respects it is synergistic with strychnine. The two, with digitaline, constitute the most important tripod of nerve stimulants in the materia medica. Atropine acts powerfully upon both the cerebro-spinal and the sympathetic systems. It is, says H. C. Wood, "the one remedy which we have, which will summon any power there may be in the vaso-motor centers into immediate action." It also lessens maniacal excitement and delirium, with the form of insomnia which accompanies these conditions. It causes cerebral hyperemia, and in this way aids materially in lessening the desire for alcohol, since it is a well-known fact that those full-blooded persons who are subject to a "rush of blood to the head" when they indulge in alcohol are obliged to be very sparing in its use, on account of the discomfort which it causes them. It also produces dryness of the mouth and throat, and directly affects the terminal filaments of the sense of taste. In this way it helps to produce a distaste for alcoholic liquors.

Dr. Harold N. Moyer, of Chicago, in a paper read before the Association for the Study and Cure of Inebriates, after considering the formulæ used in one of the "Gold Cures," and which he erroneously assumed to be the Keeley Cure, concludes that "the chief active ingredient, and the one that is leveled at the appetite for liquor directly, is the atropine; the others are tonics and synergists. The effects of belladonna, or atropine, are those of a gentle stimulant, in small doses; in larger quantities, it is an hypnotic, and if pushed, it is a

powerful, depressant poison. It also produces a dryness of the lips, with a parched condition of the tongue, lips, fauces and pharynx, with a huskiness of the voice. In dangerous doses it causes nausea and vomiting."

As has been suggested, certain other of the mydriatics are sometimes used, either as substitutes for atropine or in addition to it. Of these, hyoscine is considered especially useful in allaying excitement and producing sleep in the acute stages of the disease. H. C. Wood speaks of this drug as especially useful in cases of insomnia with delirious excitement, such as occurs in acute mania and other forms of insanity. In delirium tremens, in some cases, he has found it to act most favorably. Dr. Kny suggests that when insomnia is accompanied by motor excitement, hyoscine succeeds in bringing about sleep; but in cases characterized by depression, inaction and lack of movement, it has no such effect.

According to the best information which I have been able to obtain, and which corresponds closely with the conclusions to which I have been led by my own investigations of these remedies, the principal solution for hypodermatic use in the "Keeley Cure," and the one to which the term "Gold Cure" is especially applied, is composed mainly or wholly of either hyoscine or hyoscyamine. If this be so, it doubtless possesses, not less than strychnine, the power of abolishing the craving for alcohol. It does not, however, possess the wonderful restorative properties of that drug, which may account for the better physical condition in which those patients are left who are treated by those systems having strychnine as their basis.

Apomorphine is useful for emptying the stomach of alcohol, and "sobering up" in acute cases. It may also be used to create nausea and increase disgust at the taste and smell of alcoholic drinks.

Pilocarpine promotes in a high degree the secretions of the perspiratory and salivary glands, and may be used with advantage in some cases to hasten the excretion of alcohol and other poisonous products from the system.

Caffeine is a powerful stimulant to a fagged-out brain and a wearied heart, specially valuable in cases of depression of spirits, frontal headache, and inability to concentrate the thoughts.

Morphine may be required in some rare cases for its sedative and hypnotic effect, but as a general thing these results are better secured by tincture of hyoscyamus, chloral, and the bromides.

Most of the remedies thus far spoken of are usually administered hypodermatically; not, indeed, because the effect thus produced differs in kind from that resulting from the use of the same drug when administered internally, but because it is more direct and positive in its action when so given; and especially because the hypodermatic administration of the medication at stated intervals during the day, necessitates that the patient should be almost constantly under the eye of the attending physician, who is thus enabled to watch the progress of the case, and make such changes in treatment as are demanded by the different phases of the disease, and the idiosyncrasies of the individual. This last reason is a very important one, and has a direct bearing upon the success of the treatment.

The remaining remedies are commonly given by the mouth, and most of them are not suited for hypodermatic use.

Gold is popularly supposed to be the principal ingredient in all of the so-called "gold cures." On the other hand, it is claimed that chemical analyses of the various remedies used in the Keeley "gold cure" fail to show the presence of any gold. Certainly, however, it is used in many instances, both in secret systems and those whose formulæ are open to inspection. The common form is the double chloride of gold and sodium. I have, myself, treated patients both with and without the gold, and while I have not been able to discover any marked differences in the immediate results obtained, I am of the opinion that by virtue of its action on the cerebral circulation and the liver, and its general alterative and tonic effects, it does add to the completeness and permanency of the results secured. According to Bartholow, in small doses it promotes the appetite and digestive ability. It also increases the urinary secretion and induces perspiration. The functions of the mind become more ac-

tive under its use, and a state of cheerfulness is induced. A red and glazed tongue, epigastric pain increased by taking food, and a tendency to relaxation of the bowels after taking food, are indications for the use of gold and soda in small doses. Catarrh of the duodenum, catarrh of the bile-ducts, and jaundice dependent thereon, are also symptoms which may usually be removed by small doses of the salts of gold. If these statements are true—and they are confirmed by other authors—they certainly constitute a well-marked indication for the use of gold in alcoholism.

Cinchona, in the form of tincture, elixir, or infusion, usually forms the vehicle for the internal medication, and is of value through its well-known tonic properties.

Hydrastis, or its alkaloid hydrastin, is claimed by many to possess special value in these cases. Hare, in his work on therapeutics, says: "In the chronic gastric catarrh of drunkards, in duodenal catarrh with or without jaundice, or chronic catarrh of the intestine with ulceration, it is an excellent remedy." Bartholow says: "It is one of the best remedies for the stomach catarrh of chronic alcoholism, and it is probably the best substitute, if given in sufficient doses, for the alcoholic stimulant when its habitual use is to be abandoned."

Aloin, or aloes in any form, is a slowly-acting purgative, affecting chiefly the large intestine, and also increasing the secretion of bile. As abundant excretion is a *sine qua non* in the successful treatment of inebriety, these actions fit it for frequent use.

Muriate of ammonia has a special action on the liver, increasing the secretion of bile (Ringer) and lessening hyperemia. According to Bartholow, it is of value in catarrh of the stomach and bowels, and exerts a favorable effect on the first stages of cirrhosis of the liver, which is so commonly found in drunkards.

Coca is specially relied upon by some for the temporary relief of the burning thirst for alcohol, while the condition which causes it is being removed by other remedies. Waugh says: "The indescribable gnawing at the stomach, the hypochondriacal and melancholic sensations following the cessation of alcohol, are dissipated by coca as by no other remedy. As a means of tiding over this dangerous period, while we are rebuilding the physical and moral structure of our patients being, coca is invaluable." It is important to remember, however, that the proper time for this use of it is limited to the early stages of treatment, and that its continued employment is liable to result in the formation of a habit.

In these remedies, whose general and special actions have thus been briefly hinted at, we have the foundation stones, upon which to construct a rational and scientific medical treatment of the disease of alcoholic inebriety.

In succeeding papers, I propose to consider some of the accessory measures employed, and also the general results which are obtained in the treatment of alcoholism.

As a result of prophylactic vaccination in this State, according to the annual report of the secretary of the State Board of Health, it appears that small-pox prevailed at only nine points in the State during the year 1895. In Philadelphia there were 396 cases with fifty-five deaths. In Ashbourne the first case was mistaken for one of chicken-pox, and in the failure to adopt suitable precautions the infection spread quickly. As a result of this and a similar previous experience, a resolution was adopted by the board expressing the desirability in all cities having hospitals for contagious diseases to arrange for the practical instruction of medical students. Typhoid fever prevailed with its usual frequency. An outbreak at Oil City illustrates the resistance of the typhoid bacillus to cold and its portability in large streams for considerable distances. The disease appeared in those parts of the city that received their supply of water from the Allegheny River as soon as the ice began to melt and the material that had collected at various points along the river was washed into the stream by the melting snow—typhoid fever having prevailed during the winter in a number of towns situated higher up. There was an increased prevalence of scarlet fever, which in some places was of a virulent type. Diphtheria also prevailed largely, attended with a high mortality.

ARTIFICIAL FEEDING OF INFANTS.*

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Statistics from the registered deaths in England, compiled by Dr. Hugh R. Jones (*Brit. Med. Jour.*), show that 42 per cent. of infant deaths may be referred to digestive disorders. Infant mortality in Norway and Sweden, where almost every child is nursed by its own mother, is but 10 per cent. In Wurtemberg the mortality of breast-fed children is 13.5 per cent., of artificially-fed 42.7 per cent. In Munich, of the total number of deaths, 15 per cent. are of breast-fed children and 85 per cent. of artificially-fed. In lower Bavaria, where maternal nursing is the exception, the mortality is 50 per cent.

An examination of American statistics proves the applicability of the above statement to this country. If death-rate has any claim to direct professional attention, it appears to the writer that this is a strong appeal to enlist our interest in behalf of the dying children.

The past teaches us that the evil of artificial feeding of infants is increasing as civilization advances. We should recognize the fact that a cause or a combination of causes that destroys 20 to 50 per cent. of the infant population, is a question of vital importance, involving the welfare of the State as well as the individual. At no time of life is food so important, and nutrition so much desired, as during the constructive period of early infancy. At this stage, the physical foundation for the future structure is formed. If nutrition is impaired at this age, the body will be enfeebled, the organs defective, and consequently growth and development will be imperfect, with no power to resist the baneful influence of disease. The food and methods of feeding are responsible in a great degree for this condition. It is the function of the physician to know the nature of the food, how produced and how presented to the market, and in what manner it is given to his helpless patient. Food for the infant should be a fluid containing all the elements necessary for nutrition; sterile, faintly alkaline, at a temperature of 100° F., and furnished in proper amount, so as not to distend the stomach beyond its physiological limit.

Experience teaches that the best substitute for mother's milk is cow's milk, modified and adapted to the age and peculiarity of the child. Cow's milk differs from human milk in several important particulars. According to recent analyses published by Dr. Rotch, of Boston, the constituents of the two are as follows:

	Human.	Cow.
Reaction	Alkaline.	Acid.
Bacteria	Absent.	Present.
Specific gravity	1031	1032
Fats	4.00	4.00
Sugar	7.00	4.50
Proteids	1.50	4.00
Ash	.15	.70
Total solids	12.65	13.20

The reaction of cow's milk, as served to the public, is acid, owing to the action of bacteria on milk sugar. Bacteriologists have found that souring of milk is due to the presence of a hundred different kinds of micro-organisms. The addition of an alkali is, therefore, indicated to counteract this acidity. Lime-water, soda bicarbonate, and, if constipation is present, soda salicylate, soda phosphate or magnesia are preferable. The amount should be sufficient to render the milk alkaline. "It has been demonstrated that about two hundred different kinds of bacteria exist in market milk. That, as ordinarily drawn from the cow, the milk, by the time it is in the pail, will contain anywhere from 1,500 to 6,000,000 bacteria per cubic inch."[1] Many of these, fortunately, are harmless, but of no advantage to the milk for infant-feeding, and favor fermentation. Other forms are pathogenic and are the direct cause of many gastro-intestinal disorders in children.

[1] Pennsylvania Report of the Department of Agriculture.

Some bacteria are important to the butter-maker, since they are the agents by which cream is ripened and the flavor of butter produced. Also, the flavor of the different varieties of cheese are the result of bacterial action. There is again another class of bacteria whose effect is deleterious. They produce decomposition products, sometimes bitter, sometimes putrefied, and again decidedly poisonous. Milk thus contaminated must be pasteurized (167° F.) or sterilized (212° F.) to arrest bacterial growth.

It is possible, by extreme precaution, to have milk nearly free from bacteria, postponing fermentation for an indefinite time, and thus removing one of the objectionable features of artificial feeding. Sterilization would be unnecessary and the milk would be in its natural state. The percentage of fats in human and cow milk are about equal. A reduction in the per cent. of fat is not objectionable so long as the child is properly nourished. If, however, more fat is indicated and constipation is present, top milk or cream should be added. Cow's milk is poor in sugar. This being an important element for the production of force and readily digested, it should be supplied in the form of milk or cane sugar. The proteids are abundant in cow's milk, which renders it difficult of digestion by the infant. It must, therefore, be diluted, so as to agree with the percentage of proteids in human milk.

To be successful in the practice of infant-feeding, the milk must be of the best quality, taken from a mixed herd, of ordinary breed, fed upon the most approved rations, and cared for in the best possible manner. The milk should be taken from the cow as free from contamination with dirt and bacteria as possible. Then at once aerated and artificially cooled and temperature maintained at a point not above 50° F., until it reaches the consumer. If milk is strictly fresh and pure and properly cared for, it is not necessary to sterilize, but simply heat to the temperature of the body (100° F.) when served to the child.

The mode of feeding should be simple. Infants, under one year of age, should feed exclusively from a bottle. The bottle should be plain, with a short neck, and of a capacity adapted to the age of the child. The bottle may be graduated, so that the proper amount may be given at each feeding. The nipple should be plain rubber with a small aperture. The child while nursing should repose in a comfortable position, and be attended by an intelligent person who will remove the bottle so soon as the supply of milk is exhausted. The bottle should be immediately cleaned and placed in water, or water with the addition of soda or borax, until the next feeding.

The quantity prescribed at each feeding must not exceed the capacity of the stomach. Dr. L. Emmett Holt's observations show that at birth the average capacity is one ounce, and a gain of one ounce per month up to six months, and for every subsequent month one-half ounce up to one year; hence at this time the stomach is capable of holding nine ounces.

In regulating the amount of milk, we should not ignore the fact that individuals differ in their physiological demand. The following index has been of service to me in adjusting the proper quantity:—

Age.	Interval.	Amount.
1 month.	Every 2 hours during the day.	1 oz.
2 months	" 2 " "	2 "
3 "	" 2 " "	3 "
4 "	" 2½ " "	4 "
5 "	" 2½ " "	5 "
6 "	" 2½ " "	6 "
12 "	" 3 " "	6 to 8 "

The fact that cow's milk is rich in proteids, fats and salts, renders it of practical importance to modify it by dilution, so as to resemble human milk. The water employed for dilution must be boiled to destroy organic matter which it may contain. Water not only acts as a diluent, but alters the physical condition of the casein and renders it more digestible by preventing the formation of large coagula during peptogenic digestion. The degree of dilution necessarily depends upon the composition of the milk, the age and condition of the child. The following is my rule for dilution:—

1 month,	1	part milk to	3	parts water.
2 months,	1	"	2	"
3 "	2	"	2	"
6 "	3	"	2	"
9 "	3	"	1	"
12 "	6	"	1	"

If all the elements of the milk are

properly digested, the quantity of water is gradually reduced to the proportion of the succeeding month. The strength of the milk is adjusted to the digestive capacity of the child. Milk that is properly diluted so as to give the correct per cent. of proteids, requires the addition of such ingredients as are deficient.

Sugar should be added to the amount of ten or fifteen grains to the ounce. If a good quality of milk is used, it is seldom necessary to add cream.

To be successful in infant-feeding, specific rules must be observed. Uniformity in dilution and scrupulous care in the preparation of milk, is indispensable. In my practice, I use printed rules, that I give to the attendant, and insist on strict compliance with them, and thus avoid error and neglect.

COMMUNICATIONS.

EXTERNAL HEMORRHOIDS, WITH SPECIAL REFERENCE TO THEIR TREATMENT.*

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The classification of hemorrhoids into internal and external depend not only on the fact that one is formed within and the other without, the cavity of the rectum, but also on the anatomical relations of the majority of such tumors to the internal and external hemorrhoidal veins respectively.[1]

External hemorrhoids are divided into (*a*) the venous, (*b*) the cutaneous, and (*c*) the compound.

(*a*) The venous variety occur in three forms: (1) as a marked varicose condition of the external hemorrhoidal plexus; (2) a thrombosis of this plexus; and (3) as a clot of extravasated blood due to a rupture of a varicose vessel.[2]

(*b*) The cutaneous pile consists of a hypertrophy of the skin surrounding the anus. It frequently is the result of a venous pile, a fold of skin being left after the clot has been removed, either by absorption or operation. When uninflamed it occasions no great inconvenience, but when aggravated by improper diet, irregular habits, uncleanliness, etc., it veritably causes the patient, as stated by the Messrs. Allingham, ("Diseases of the Rectum," fifth edition, London, 1888, page 83), an amount of suffering quite disproportionate to the pathological appearances. Doctor J. M. Matthews, ("Diseases of the Rectum, Anus, and Sigmoid Flexure,") states that in his opinion the cutaneous pile is not an excrescence, as some authorities think, but an enlargement of the superfluous tags of skin sometimes found around the anus.

(*c*) The compound external pile is a term that should be restricted to those tumors which are frequently found and justify the separation into a distinct class, in which the hemorrhoid is largely external but is also probably internal. Dr. Charles B. Ball, ("The Rectum and Anus, their Diseases and Treatment,") applies this name to a form of external pile which is found to consist principally of connected tissue, and which contains several thrombosed veins of considerable size, instead of one central cavity as in the common variety of venous hemorrhoid. I believe that the form I have described and not the pile de-

* Read before Pennsylvania State Medical Society, May, 1896.

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1 A thorough and most instructive article bearing upon the subject of "external piles and their relation to the internal hemorrhoidal veins," by Walter J. Otis, M.D., Surgeon to the Department for Diseases of the Rectum, Boston Dispensary; is to be found in a pamphlet reprinted from the February, 1895, issue of the *American Journal of Medical Science.*

2 The existence of this form of hemorrhoid is denied by some authorities, but I have seen a sufficient number of such cases to warrant the classification given.

scribed by Dr. Ball should be understood when the term compound external hemorrhoidal is employed.

Symptomatology. Unless inflamed, external hemorrhoids (with the exception of the thrombotic variety), give rise to no pain and but slight inconvenience. Any annoyance occasioned is largely due to the mental effect upon the patient that something abnormal exists about the rectum. In the acute stage, a thrombotic pile is always attended by some pain (due, probably, to distension), and considerable constitutional disturbance.

All varieties of external piles, when inflamed, are accompanied by pain; spasmodic contraction of the levator ani and the sphincter muscles; a disagreeable sensation as if there was a foreign body about the rectum, which induces more or less tenesmus and straining, as well as a feeling that the bowels must be evacuated; finally, the general health is affected and reflex symptoms are often present.

The treatment of external hemorrhoids embraces more than mere attention to the local condition. Permanent relief from the trouble, or the most satisfactory results, are obtained from a consideration of the causes inducing the malady; and the success attending any plan of treatment depends as much upon the correction or removal of these factors as it does upon the local treatment.

Chronic constipation, the first step to take in correcting a predisposing and exciting cause must be by establishing regularity in the time of going to the closet. Patients should be directed to go at the same hour daily, whether the desire exists or not. Physical exercise is another important factor in correcting costiveness. Certain articles of food often aid in the removal of this affection, such as the fruits,—of which prunes, apples and oranges are the best.

Medically, the treatment of constipation covers a vast range of remedies. No one plan can be outlined that will benefit all, or even the majority of persons so afflicted. Some authorities are strongly opposed to the continual use of laxatives in these cases and I do not indorse their employment, except where other measures fail, and then only advise the use of the mildest remedy and in the smallest possible dose to effect the desired result. Yet, I am sure that the continued use of laxatives is necessary in some cases of obstinate constipation.

Sometimes a tumblerful of hot or cold water taken before breakfast will nicely regulate the bowels. If this should fail, the mineral waters may be tried. Fluid extract of cascara sagrada with equal parts of glycerin, in doses of thirty to sixty drops at bedtime, will often prove useful.

Among other prescriptions which I have found beneficial are the following:

℞

Ext. nux vomicæ . . . . . gr. vi.
Ext. belladonnæ . . . . . } āā
Ext. physostigmatis. . . . . } gr. ij.

Mix. Make twenty-four pills.
Dose—One pill before meals.

℞

Ext. cascara sagrada . . . . . gr. xij.
Ext. nux vomicæ . . . . . gr. iij.
Ext. belladonnæ . . . . . } āā
Res. podophyll . . . . . } gr. ij.

Mix. Make twelve pills.
Dose—One to two pills at bedtime.

If dependent upon a gouty or uric acid diathesis or functional derangement of the liver, the treatment must be directed towards relieving these conditions. In all cases the diet should be carefully regulated. Meat should be taken in small quantities; rich gravies, sauces and pastry are to be avoided, as well as all sweets. The use of alcohol should be restricted. All wines, except claret, are particularly objectionable. Considerable benefit is to be derived from the use of aperient medicines, of which the salines are the best, as sodium phosfate or the sulfate, or the natural mineral waters. In some cases, I have seen marked improvement result from the use of mercury in some form, such as fractional doses of calomel, or blue mass in five and ten-grain doses. Ammonium chlorid, in ten and fifteen-grain doses, four times daily, is a useful remedy in hepatic congestion. Nitro-hydrochloric acid, in combination with nux vomica and compound tincture of gentian, often proves of value.

℞

Acid, nitro-hydrochloric . . . . . ℥ss.
Tinct. nux vomicæ . . . . . ℥ss.
Comp. tinct. gentian . . . . . āā ℥ss.

Dose, twenty-five drops in a wineglassful of water, after meals.

Turkish baths are beneficial when taken once or twice a week. Massage is of decided advantage. Lithium salts are indicated, either in the form of the effervescing citrate, or the waters of some of the many mineral springs. In some cases the wine of colchicum is an efficient remedy, in doses of five to twenty minims.

Obstructive disorders of the heart and diseases of the lungs, accompanied by distention of the capillary vessels, are rather subordinate factors in the causation of piles, but nevertheless demand consideration and treatment when associated with the malady under discussion.

Other diseases: Polypi, irritable ulcer of the rectum, more commonly called a fissure; rectal stricture; phimosis; adherent prepuce; stone in the bladder; enlarged prostate; urethral structure; abnormal positions of the uterus and growths, or other diseases of that organ, as well as of its appendages, must receive attention before we can hope to deal satisfactorily with the hemorrhoids.

Errors in diet and mode of living should likewise receive proper attention.

The local treatment of external hemorrhoids may be divided into the operative and the non-operative. The first is the preferable plan in nearly all instances. If, however, the patient refuses to submit to the slight operation necessary, recourse must be had to local applications during the acute inflammatory stage.

The operative plan, by which method only may we expect a radical cure, may be accomplished by (*a*) simple incision, by (*b*) excision, or by (*c*) excision and primary suture of the cutaneous edges of the resulting wound.

Simple incision is applicable only to the venous form, excluding the simple varicose variety, which latter, unless inflamed, hardly ever requires operative interference. It is seldom, however, that the surgeon is consulted about external piles unless they be inflamed or associated with internal hemorrhoids. The operation consists in shaving the hair; in cleansing the parts thoroughly and rendering them as aseptic as possible; then anesthetizing the tumor by means of a hypodermatic injection of a four-per-cent. solution of the hydrochlorate of cocaine (ten minims usually suffice), or by a spray of ethyl chloride, or by freezing the pile with salt and ice, and then catching the tumor firmly between the thumb and finger of the left hand and transfixing its base in the direction of the radiating folds of the anus with a curved bistory and cutting out, at the same time, by gentle pressure the clot or clots may be extruded. The subsequent treatment consists in dusting iodoform, or aristol and boric acid, equal parts, or iodol, freely over the raw surface, being careful to see that the same is firmly powdered and not lumpy; then, in applying a piece of lint, soaked in a five-per-cent. carbolized oil, into the bottom of the wound, to prevent the sac refilling with blood and to enable healing to occur from below instead of running the risk of a superficial fistula forming by the edges of the wound only uniting. The patient should be advised to keep quiet for a few days, or, at least, not to take any active exercise. It takes about ten days for the healing process to be completed, and, usually, the relief from pain is immediate and complete.

Excision is the form of treatment most generally employed for the various forms of external hemorrhoids. The technic is similar to that described for incision, with the exception that the pile is grasped by some suitable instrument, such as a hemostat, and the tumor is removed in its entirety by means of a pair of scissors, curved on the flat. In some instances, a small artery may require a ligature. If the operation be properly performed, there will be none of the dangers so frequently mentioned in text-books of the formation of a stricture. Iodoform is freely dusted over the raw surface, a firm pad of gauze and cotton and a T-bandage complete the dressing.

Excision, combined with primary suture of the resulting wound, resembles the last method, the essential difference consisting in the close apposition of the wound by carefully-buried silk-worm-gut sutures. The following points might, however, bear emphasis: The tumor is anesthetized and then grasped, on either side of its long axis, by hemostat. The necessary number of sutures are now inserted, care being taken to place them beneath the base of the pile, so that when it is excised, the stitches will not show in the wound, but be buried. This plan of dealing with external hemor-

rhoids has proven most satisfactory, not alone to me, but likewise to the patients. They get well much quicker and suffer less annoyance than when the parts are left to granulate. The sutures are taken out on the third or fourth day. In any stout person I am in the habit of taking out the sutures within forty-eight hours, for fear of the tension producing a fistulous track. I have operated on twenty-two persons by this procedure and have had primary union in all but two instances. Operating in this manner also prevents hemorrhage.

Non-operative or palliative treatment consists primarily in keeping the parts thoroughly cleansed by bathing with warm water and castile soap.

A most valuable and soothing lotion for use during the acute inflammatory stage, is one advised by the Messrs. Allingham:

℞

Sol. plumbi subacetat fort.	℥j.
Tinct. opii	℥ss.

Mix. One teaspoonful of the lotion to be mixed with a wineglassful of milk, and to be applied frequently to the anus.

A formula which I have found very useful is as follows:

℞

Fl. ex. hamamelis	℥j.
Fl. ex. hydrastis, Comp. tinct. benzoin	āā ℥ss.
Tinc. belladonnæ	℥j.
Carbolized olive oil (5 per cent. carbolic acid), q. s. ad.	℥iij.

Mix. Sig.: Apply often to the parts.

Heat or cold applications are often of service.

Dr. Ball considers the local application of a mixture of extract of belladonna and glycerine, smeared over the anus and followed by a warm stupe, the best palliative treatment for external hemorrhoids. In addition, the bowels should be fully moved, and a light, easily-digested diet, with rest in bed, should be prescribed.

Any of these remedies will usually cause the inflammation to subside within a few days; but, usually, a thickened tag of skin is left, which is liable, at any time, on the slightest provocation, to become inflamed.

POISONOUS HONEY.*

LYMAN F. KEBLER, PH. C., B.S., PHILADELPHIA.

Some of the members of the Philadelphia Beekeepers' Association were not a little agitated concerning the report of a case of poisoning by honey, occurring last fall at Princeton, N. J. Through the efforts of one of the members, the writer had placed at his disposal several sections of this honey for examination. The importance of this subject is sufficient reason for giving a somewhat detailed review of it.

It has been known many years that honey produced by bees having access to certain Ericaceæ, growing in various districts, acts as a narcotico-irritant, producing giddiness, vomiting and purging. The first record of the effect of poisonous honey occurs in Xenophon's[1] account of the "Expedition of Cyrus," popularly known as "The Retreat of the Ten Thousand." Having ascended the mountains of the Colchians, and put to rout the inhabitants, the Greeks encamped in their villages. "There[2] was nothing at which they were surprised; but the number of bee-hives was extraordinary, and all the soldiers that ate of the combs, lost their senses, vomited, and were affected with purging, and none of them were able to stand upright; such as had eaten only a little were like men greatly intoxicated, and such as had eaten much were like madmen, and some like persons at the point of death. They lay upon the ground, in consequence, in great numbers, as if there had been a defeat; and there was a general dejection. The next day no

*Read before the American Pharmaceutical Association, August, 1896.

1 400* B. C. Xenophon, Anabasis, Bk. 4, C. 8, §§ 20-21.

2 Rev. J. S. Watson's Translation of the Anabasis.

one of them was found dead; and they recovered their senses about the same hour that they had lost them on the preceding day; and on the third and fourth days they got up as if after having taken a physic."

Strabo,[3] the ancient historian, relates that three squadrons of Pompey's troops were destroyed by the Heptacometæ, a wild tribe inhabiting the mountains east of Themiscyra. The soldiers were tempted with the luscious poisonous honey, and while under its influence were slain.

Dioscorides,[4] Diodorus Siculus[5] and Aristotle all mention the maddening effect produced by honey of Heraclea Pontica gathered in certain seasons of the year.

C. Pliny[6] noticed not only poisonous honey, but maddening honey also. He writes thus: "Indeed, the food of bees is of the very greatest importance, as it is owing to this that we meet poisonous honey even. At Heracla, in Pontus, the honey is extremely pernicious in certain years, though it is the same bees that make it at other times. There is a certain plant, which from the circumstances that it proves fatal to beasts of burden, and to goats in particular, has obtained the name of ægolethron (Goats' death), and the blossoms of which, steeped in the rains of a wet spring, contract most noxious properties. The following are the signs of honey being poisonous: It never thickens, the color is redder than usual, and emits a peculiar smell, which immediately produces sneezing," and is more weighty than good honey. Persons eating it throw themselves on the ground to cool: their bodies being covered with perspiration. Beekeepers to-day say that heather honey has a higher specific gravity than any other.

"Maddening Honey." In the country of Sanni, in the same part of Pontus, a honey is met with that produces madness, and has received the appellation "mænomenon." This contamination is generally attributed to the flowers of the rhododendron, with which the woods there abound. "In Persis, too, and in Gætulia, a district of Mauritania Cæsariensis, bordering on the country of Massæsyli, there are poisonous honeycombs found; and some, too, only partly so, one of the most insidious things that could happen, were it not that the livid color of the honey gives timely notice of its noxious qualities."

J. P. Tournefor[7] ascribes the source of poisonous honey to Chamærhododendros Pontica, maxima (Azalea pontica). He says the honey stupefies the persons who eat of it.

Mr. Peysonnell[8] mentions among the annual exports from Taman, twenty-five tons of honey collected in Abaza, near the Black Sea. This product was exported as mad honey (miél-fol), and was used as an ingredient of intoxicating drinks to increase their effect.

Poisonous honey thus far considered has had its origin principally in Asia Minor. But our own United States have not escaped. Indeed, it appears that cases of poisoning multiply as bee-culture develops. No less than eight cases have been reported in New Jersey alone during the past year. B. S. Barton[9] was the first to investigate the subject in this country, and his interesting and exhaustive communication was read before the American Philosophical Society in 1794, but it was not published until 1802. Poisonous honey coming from western Pennsylvania he describes as producing dimness of sight, vertigo, succeeded by delirium, sometimes mild and pleasant, then again ferocious, producing ebriety, pain in the stomach and intestines, profuse perspiration, foaming at the mouth, vomiting and purging. The same authority also relates that a party of Pennsylvania adventurers placed some hives into New Jersey in order to produce honey. The bees throve splendidly and gathered an abundance of honey, but, unfortunately, it was of a very pernicious character. Not willing to be shorn of the fruits of their labor, these adventurers converted their deleterious honey into a drink called "metheglin," which, contrary to their expectations, was also very intoxicating.

3 100* B. C. Lib. 12, p. 826.
4 Lib. 2, p. 103.
5 40* B. C. Lib. 14.
6 77* B. C. Natural History, Bk. 21, C. 44 and 45.
*Indicates approximately.

7 1704, Hist. de l'Acad. Roy. des Science, Paris, *19*, 348; 1717, Letters from the Levant, *2*, 228.
8 1787, Treatise on the Commerce of the Black Sea.
9 1802, Trans. Am. Phil. Soc., *5*, 51; Fodere, *4*, 90; Beck's Medic. Jurisprudence, *2*, 720.

Dr. I. B. Coleman[10] reported a case of wholesale poisoning by honey occurring in New Jersey. Fourteen persons were affected, consisting of men, women and children. One died, six were severely afflicted and the rest only slightly incommoded. There was burning of the stomach and skin, shivering, general sense of coldness, retching, and ineffectual efforts to vomit.

Undoubtedly, much poisonous honey has been produced in this country, and many persons affected by it, of which we have no record. Excepting the above and some poisonous honey met with by the soldiers of the rebellion, through the Southern States, no record of any has been made in this country until we met with the celebrated case of poisoning[11] at Branchville, S. C. Here twenty persons were affected, three of whom died. The honey was found to be highly impregnated with gelsemine. Historically, this brings us to the case of poisoning at Princeton, N. J.

The sections of comb-honey in the writer's hands were carefully examined externally, and found to possess a normal physical appearance. One section would not have aroused the least suspicion in odor, color, or taste; but another section was quite dark, reddish-brown, possessed a nauseating odor and a pungent, burning taste in the back of the mouth and throat, in a measure resembling the first sensations of aconite. A number of persons were invited to take a little of the honey, its character being unknown to them; all immediately began to cough, and question the quality of the product. A third section was entirely eaten by the writer and another person in a day and a half with no ill effects. A small portion of one side of the comb possessed a most pleasant flavor, while the remainder faintly resembled section two above. The producer was not certain that all of the honey delivered to the writer was poisonous.

The contents of the non-suspicious section, about 360 gms. were digested with absolute alcohol, at the temperature of the room, during two days, with frequent agitation. The alcohol was then decanted, evaporated at the ordinary temperature, and the alcoholic residue again treated with absolute alcohol as before. The alcoholic solution was again decanted, evaporated, and a portion of the extractive administered to two cats. One cat was given a small dose, while the other received a large dose. The small dose produced partial exhaustion, relaxation of the voluntary muscles and general depression. The large dose in a short time produced restlessness, vomiting, purging, postration, and almost complete loss of the voluntary muscles, showing that the honey contained a prompt and potent poison. The animal could scarcely be induced to move, and when motion was attempted, first the fore-limbs would fail, and then the back limbs would give way. First one portion of the body would sway in one direction, then the other portion in another, reminding one of a highly intoxicated person. Had the entire dose been retained, death undoubtedly would have followed. As it was, the cat had regained her normal condition only at the end of twenty-four hours.

The physician who attended the persons afflicted with similar honey writes as follows: "Only two persons partook of the honey; all the rest of the family and the servants ate of each of the other articles served at breakfast, and were not in the least affected. Mr. and Mrs. Chambers took but a small quantity, yet each noticed a peculiar, pungent, burning taste in the comb as soon as it had passed their lips. In fifteen or twenty minutes afterwards, Mrs. C. was taken with nausea, abdominal pain and vomiting, soon followed by loss of consciousness, coldness of extremities, feebly-acting heart, and complete collapse. While ministering to her, Mr. Chambers, who had also experienced the initiatory symptoms of pain and nausea, suddenly exclaimed, 'I cannot see,' and soon sank in a state of syncope to the floor. In each case the symptoms were similar. Retching, vomiting, purging, acute gastric and abdominal pain, and continued cramps for some hours, with surface coldness and deadly pallor, and the general symptoms of collapse. No pulse could be detected at Mr. C.'s wrist for two hours, and the heart-sounds were extremely feeble and ir-

10 1852, N. J. Medical Report, Burlington, *6*, 46.
11 Gaillard's Med. Jour., *41*, 107; London Lancet, 307; Pharm. J. Trans., (3), *16*, 188.

regular; as they also were in Mrs. C. Though her pulse was not entirely lost, yet for an hour it was scarcely discernible. By the aid of restoratives, consciousness returned to Mrs. C. in about three hours, but the husband was not fully himself for nineteen hours—till four o'clock the next morning, and had no recollection of anything that had transpired in the interim, although he had conversed with the nurse and myself during the afternoon and night.

"The treatment consisted of brandy and hot drinks, sinapisms, external application of heat, hypodermic injection of morphine, for pain, and of digitaline, until reaction was restored. Then rest, quiet and a general supporting plan was adopted. Recovery took place gradually and without any eventful symptoms, though the restoration to strength was very slow."

The honey was next carefully examined for alkaloids, with negative results in every case. Not a trace of either an alkaloid or any inorganic poison could be detected.

The remainder of the alcoholic extractive was further purified and finally taken up with alcohol, agitated with light petroleum ether, then with chloroform, and the tests applied to the chloroformic residue. The above procedure is an adaptation of Dragendorff's process. Plugge[12] says the reactions of andromedotoxin with dilute and concentrated mineral acids are characteristic, yielding intensely red decomposition products. Concentrated sulphuric acid produces a dark reddish-brown, becoming redder on warming, and turning light mulberry-red on diluting with water. Alkalies destroy the color, which re-appears on acidifying. These distinctive chemical tests were not sufficiently sharp and characteristic to justify a positive conclusion either for the presence or the absence of this poison. Further work will be done in this direction.

Prof. Plugge[13] has found andromedotoxin in Andromeda japonica, Thunb., A. polifolia, L., A. Catesbæi, Walt., A. calyculata, L. Kalmia, latifolia, L., Monotropa uniflora, L. Pieris formosa, Don., P. ovalifolia Don. Rhododendron Falkoneri, Hook., R. grande, Wright, R. barbatum, Wallich, R. fulgens, Hook., R. cinnabar, Roxb., and R. punicum, Smith.

Mr. Bartram has traced many deaths to honey coming from Kalmia latifolia. Seringe relates that two Swiss priests were poisoned by eating honey gathered from Aconite dycoctonum and A. napellus, but others hold that the bee's tongue is too short to gather nectar from these plants. C. G. B. Daubney[14] states positively that Rhododendron ponticum is harmless, but has suffered much in connection with Kalmia latifolia, and Messrs. Dod and Nesbitt question the oft-repeated assertion that poisonous honey is obtained from it; but according to the statements of Messrs. Webber, Clarke and Ross, there can be little question about this plant being poisonous. All are agreed that Azalea pontica furnishes poisonous nectar; even the natives of Turkey believe that their "Delli Bal," or mad honey, has its origin in the azalea.

Robert Moffat[15] reports that a species of Euphorbia of South Africa produces poisonous honey. Mr. Hicks,[16] of Long Island, claims that Andromeda Mariana is the source of pernicious honey. He also says that some paper related the fact that a Philadelphia chemist had examined some honey from this source and found it to contain prussic acid.

After reading the above reports of poisonous honey, little doubt can exist in the mind of any one as to its origin. Yet some believe that honey is rendered noxious after being accumulated. This might be true in the case where an analysis[17] of the honey revealed the presence of arsenic. How it found its way there is a problem, for this chemical is a powerful insecticide. The honey was collected near an arsenical factory, and it is not improbable that the arsenic found its way into the honey mechanically. Being sparingly soluble, it is not impossible for it to happen in this manner during a dry atmosphere.

When the poison is an alkaloid, as gelsemine, the problem is easily solved. The bees simply collected nectar from

12 1889, Arch. d. Pharm., *227*, 164; Am. J. Pharm., *61*, 360; J. Chem. Soc., *56*, 278.

13 1891, Arch. d. Pharm., *229*, 552; Am. J. Pharm., *63*, 603.

14 Lecture on the Trees and the Shrubs of the Ancients. Lecture 4, p. 105.

15 1846: Missionary Labors, p. 32.

16 1896: Meehan's Monthly, *6*, 123.

17 1871, M. Bouchardat, Ann. d. Therap., *34*, 207; A. Treatise on Poisons (Taylor), third ed., p. 174.

certain narcotic plants. But some one argues that it is impossible for these little creatures to collect and store a poison and not be killed themselves. There is scarcely a narcotic herb that does not give support to some form of animal life. What is nourishment and life to one is poison and death to another. Many of General Braddock's horses perished from eating leaves of the laurel during the month of June, 1755, a few days before his defeat, yet pheasants will eat and thrive on the buds and leaves of the kalmia latifolia in times of scarcity; but their flesh becomes so permeated with the poisonous principle that persons have frequently been poisoned by eating it. Such a large number of cases of poisoning from this source at one time occurred in Philadelphia that the mayor was compelled to act, by prohibiting the use of pheasants as food. Again, who can positively state that the mortality of bees is not increased in poisonous pasturage?

Is it possible to detect the unwholesome from the wholesome by odor, color and taste? The writer's experience is that one sample can be detected while another cannot be detected. C. Linnæus informs us that the honey gathered from the Ericaceæ possesses a reddish color, but does not say anything about noxious properties. Great quantities of "blooming heather" honey are consumed in Scotland, but no record exists of its being poisonous. The most experienced hunters of Colonial days, of North America, were able to distinguish the pernicious from the innocent by its crimson or reddish-brown color and thicker consistency. W. Bartram says that the poisonous honey of the Carolinas and the Floridas is so similar in color, odor and taste that it cannot be distinguished from the wholesome. The hunters tested it by taking a little and watching its effect.

Since Messrs. Plugge and de Zaayer have made their extensive examinations of the Ericaceæ, some of which abound almost everywhere in the temperate climates, and found the potent poison, Andromedotoxin, in so many of them, even the most conservative must admit that if the pasture of the bees abounds in any of these plants, poisonous honey is an inevitable consequence in certain portions of the year. N. B.—Physiologically, the chain of evidence has not been absolutely established, some one says. It is true that the andromedotoxin obtained from certain of the Ericaceæ produced some symptoms that have not been satisfactorily observed when the poison was extracted from the honey. But most of them have been noted, and it will be only a question of a few years when there cannot be a shadow of a doubt.

In placing an apiary, great care should be exercised in selecting a locality. Where many of the Ericaceæ abound, as in certain parts of New Jersey, the beekeeper is warned not to place his hives, even though it appears to be an ideal spot otherwise. The dealer is also cautioned to investigate with great care the source of this article, in order to avoid unpleasant popularity.

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CURRENT LITERATURE CONDENSED.

The Prophylactic Treatment of Eclampsia Gravidarum.[1]

Two varieties of convulsions may occur, as a result of the pregnant or puerperal condition, viz:—First, those of a purely nervous character, occurring in women of neurotic habit and all predisposed to epileptic attacks; second, those occurring as a result of some change in the blood and tissues, due to renal disease and manifested by albumin in the urine. Cases of the first class are comparatively rare, being epileptic or hysterical in character, requiring bromides and chloral during the progress of gestation and chloroform during labor, followed by anodynes. Blood-letting is advantageous when convulsions are imminent, and morphine with atropine hypodermatically when a rapid effect is desired, but only in those cases where there is no tendency to cerebral congestion. In serious cases, abortion is not only justifiable but demanded when other prophylactic measures fail to control the symptoms. The prognosis is good, but cases are on record of a fatal termination even in the early months of gestation, therefore, prophylaxis should ever be in mind. Cases of the second class demand an early diagnosis for success from prophylaxis. Urinal examination every second week after the sixth month, and when albumin is found, daily thereafter. The condition of the urine should be the guide for treatment, rather than the symptoms of the patient. The prophylactic treatment may be divided into dietetic, medicinal and operative. In appropriate cases, milk diet only; others need diuretics, purgatives, warm baths, venesection and tonics. Where these fail or bid fair to wear the patient out, operative interference should be instituted, no matter what the period of gestation is. The prognosis in all these cases is grave, and during parturition the patient should be closely watched and various remedies administered to control, prevent or modify all causes of dystocia.

[1] H. W. Longyear, M.D., *American Journal of Obstetrics*, November, 1895.

Pneumo-Peritoneum.[2]

Tympanites may be defined as the distention of the abdomen, resulting from excessive accumulation of gas within its cavity. Pneumo-Peritoneum may be thus classified:

1. Tympanites intra-intestina.
2. Tympanites extra-intestina.
   A. Traumatic.
      (*a*) From without.
      (*b*) From within.
   B. Non-traumatic or spontaneous.
      (*a*) Without liquid, gas odorless.
      (*b*) Ascites and gas odorless or fetid.
      (*c*) Pus and fetid gas.
3. Tympanites intra et extra-intestina.

First. The causes of tympanites intra-intestina are inflammation of the intestines themselves or their serous coat, obstruction of the lumen of the bowel by a growth in its interior, or compression from without, the administration of such poisons as atropine and the accompanying paralysis of the muscular wall of the intestine. Abdominal distention indicates the onset of peritonitis, supposedly occurring as a consequence of what is termed septic paresis, the bowels being deprived of their peristaltic action by

[2] James F. W. Ross, M. D., *American Journal of Obstetrics*, November, 1895.

some action brought to bear on the nerve-supply by the poisoned blood. The effect of this poison is similar to that of atropine administered in poisonous doses. This condition is not solely due to the loss of power of the muscular wall but a combination of septic intestinal paresis and septic intestinal indigestion.

Second. Tympanites extra- intestina, caused by traumatism, is divided into those where the injury is from without, air entering the abdomen through the wound, and those where the injury is from within, gas passing from intestines or lung into the peritoneal cavity. The first variety is very rare; the second variety may be caused by the perforation of round ulcers, dysenteric ulcers, typhoid ulcers, secondary ulcers due to stricture, ulcer caused by cecitis and appendicitis, from perforation of the vermiform appendix, from rupture due to a blow on the abdomen and from perforation, the result of malignant sarcomatous ulcers.

The author has met with but one case of the first and third variety of spontaneous, non-traumatic tympanites extra-intestina, and none of the second.

Third. Tympanites intra and extra-intestina is so intermingled with the other that it is of no particular interest. The fact that air is found in the intestines as well as outside of the intestines in the peritoneal cavity is not likely to affect the etiology or the treatment of the disease.

Etiology:—The author asks this question, viz:—may not the production of gas found during life occur as a consequence of the development of the bacillus aërogenes capsulatus in the presence of a necrotic condition of uterine tissue at the placental site?

Treatment:—Exploratory celiotomy in all cases.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Nux Vomica and Strychnine.

Nux vomica and strychnine (*Comby. Méd. Mod.*, March, 1896) are useful in nervous depression, atony and paralysis of the nervous system, whatever the cause. The author does not recommend its use in convulsions, in children's eclampsia and in all cases where the nervous excitability seems exaggerated.

Strychnine is indicated in heart disease, in the asystolic period, if there is any tendency to collapse, in pulmonary asthenia caused by pneumonia, broncho-pneumonia, active or hypostatic congestion of the lungs; in broncho-pulmonary catarrhs of typhoid fever, of measles, whooping-cough, when the patient's state indicates a paralysis of the lungs with threatening syncope or asphyxia; and last in case of dilatation of the bronchi, of asthma and pulmonary emphysema. In rectal prolapse, which occurs frequently in childhood, hypodermatic injections of strychnine are very useful. Nux vomica renders service in the diseases of the digestive tube, in chronic dyspepsia, characterized by atony and dilatation of the stomach, in the secondary dyspepsia of the tuberculous and in intestinal atony with constipation. Gastralgia, severe pain of the stomach and intestines are the counter-indications.

For external employment use pommades and liniments of tinctura nucis vomicæ or strychnine (1:30).

Internally, nux vomica should be administered in powder; the maximum dose is 0.01 (gr. $\frac{1}{6}$) *per die;* and ten days is the limit of using it. It should be administered in water with sugar. Strychnine may be administered in doses of 0.001 (gr. $\frac{1}{60}$). Its best salt is the sulfate. In case of accidental intoxi-

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

cation, the evacuation of the stomach must be tried and narcotic or sedatives must be administered (chloral, potass. brom., ether, chloroform).

Medical Treatment of Dysphagia in Tuberculosis of the Larynx.

Dr. Molinie (*Marseille Méd.*, November, 1895) recommends inhalations, pulverizations, insufflation and whitewashing. Inhalation is the easiest treatment. This is done either by means of a vase in which is kept the boiling solution of the drug used, or the larynx is treated directly with the powdered balsams (benzoine, eucalyptus, balm of Peru). They can be used by the patient himself and are well tolerated. Insufflations of powders are not easily supported. The powders used are iodoform, iodol, menthol and chlorhydr. of morphin, etc. Whitewashing is the most useful. By means of a pencil, different substances are directed to the diseased parts such as two per cent carbolic glycerite, iodoform with ether and creosote. Lactic acid is almost the specific remedy in tuberculosis of the larynx. When the larynx presents an ulcer, caustics must be abandoned and recourse must be had to opium and cocaine. At this period injections of menthol-oil are especially recommended. The galvanic cauterization of the infiltrated tissues aborts the disease and favors the transformation of tuberculous tissue into fibroid.

Permanganate of Potassium and Cutaneous Pruritus.

Dr. Bulkley (*Sem. Méd.*, March, 1896) uses permanganate of potassium (1 to 2:100) in case of pruritus, and states that it is very efficacious in relieving the intense itching which accompanies certain varieties of eczema or other dermatoses. These applications are made twice daily. After painting with the liquid, or rather between the applications, a pommade of zinc oxid is applied to the skin. The permanganate of potash colors the skin, but this disappears after desquamation.

Treatment of Uterine Hemorrhages.

Dr. Touvenaint (*Revue. Inter.*, April, 1896) divides the treatment of uterine hemorrhages into medical and surgical. In medical treatment, the following measures are to be taken:

1. Absolute rest in bed, with the head in a lower position than the inferior members, and complete immobility.
2. A bag with ice on the abdomen.
3. Frequent vaginal injections with sublimate solution (1:3000 or 4000) at 50° C.
4. Administration of ergot, hydrastis canadensis or hamamelis. Tinctura hydrastis canadensis can be administered in doses of forty drops a day, or the following prescription:

℞

Tin. hydr. canad	4	(℥j).
Elixir gari.	20	(℥v).
Syr. cortex aurant . . .	30	(℥j).
Aquæ	120	(℥iv).

S. A tablespoonful every two hours.

Hamamelis should be taken in doses of thirty, forty and even fifty drops daily. Ergot should be administered in injections.

5. Vaginal tamponing should be done with iodoform gauze, which should be changed every twelve hours. By changing the tampons, a warm injection has to be made each time.
6. The general health must be sustained with tonics such as extract of cinchona, alcohol and champagne.

If in some cases the medical treatment succeeds in stopping the hemorrhage, it is very often palliative and even not sufficient. In such cases the curetting gives remarkable results. The remainders of the placenta in the uterine cavity or a metritis are often the cause of the hemorrhage, and the curetting succeeds in stopping hemorrhage immediately and radically. Even in case of uterine fibroids, the curetting gives an excellent result. If the hemorrhage is caused by an epithelioma of the cervix, the curetting of the cancerous growths stops the hemorrhage. Of course, in case of large fibroids or cancer of the body of the uterus curetting is not efficacious, and in this case only hysterectomy can save the patient.

Hydrotherapy in Tuberculosis.

Dr. Casarini (*Gaz. degli Ospedali*, May 6, 1896) calls the physicians' attention to the influence of hydrotherapy on

tuberculosis, and recommends a special method of application.

A bath of 16 or 17° C. is taken early in the morning, though the temperature of the water may be raised when the patients are very impressionable. The patient stands with the head inclined and the back bent, and a sponge soaked in water of the named temperature is passed rapidly over the anterior surface of the body. This is repeated seven or eight times during one minute, after which the patient is dried by means of a rough sheet, rubbing so that the skin becomes red. The patient lays in bed for a half-hour and takes a walk for about an hour. In three cases of tuberculous infiltration of the apex without cavilary symptoms, Dr. Casarini obtained a complete recovery by this treatment. He presumes that hydrotherapy, used carefully and according to the rules mentioned, might give excellent results. It can be generally administered, but in cases where the tuberculose processus is not too much advanced; and even in the latter cases it is likely to improve the patient's state of health. In many cases the patients were so improved that they could be considered as cured.

Treatment of Sciatic with Scotch Douches.

Dr. Borichpolsky (*Neurol. Soc.*, St. Petersburg) indicates the influence of the heat on the circulation, organic exchange, motor and sensitive nerves, etc. Among thirty-two patients afflicted with sciatica of divers origin, twenty-three are completely cured, seven improved, and two not relieved by the treatment. All the patients were chronic. Taking into consideration that sciatic pain is caused by some trouble of circulation and accumulation of products of disassimilation liable to determinate trophic troubles, Dr. Borichpolsky thinks that the Scotch douches accelerate the circulation and exchanges in the diseased nerve, since in the douches there are two elements, mechanical action and action of the heat. Besides their therapeutic value, the douches might help the physician in the diagnosis, for they assist in telling from the beginning of their application whether the pain is of true sciatic origin. The author considers these douches as the best anti-neuralgic treatment and recommends them, not only in sciatica but also in general neuralgias.

Guaiac and Chronic Gout.

Dr. Garrod (*Presse Méd.*, June 27, 1896) recommends guaiac as a prophylactic remedy for the acute accidents of gout.

He says: A long experience in using the powder or tincture of guaiac allows him to formulate the following conclusions.

First. Guaiac is harmless; it can be administered for a very long time.

Second. It has a considerable sedative power in any gouty disposition (it is true, less than colchicum); the fever is not a counter-indication.

Third. It prevents the fits.

Fourth. The preventive value of guaiac is conserved even in cases where the remedy is used for a long time.

Fifth. Guaiac acts directly on the kidneys and stimulates their function.

The Influence of Salt Baths on Febrile Diseases in Children.

After an experience of twenty-five years, Dr. Angelos (*Dtsch. Med. Zeit.*, June, 1895) arrives at the following conclusions: Salt baths act as an irritant of the skin and replace the cold baths without the inconveniences of the last. A salt bath of 10 to 20 per cent. is more agreeable to the patient than an ordinary bath at the same temperature. A strong solution of salt is more or less disinfecting. According to Robin's and Keller's researches, the strong salt bath acts as a stimulant to the organic exchanges; consequently, the toxins enter partially in harmless combinations and partially are expelled faster from the body. The demonstration of this assertion lies in the quality of the urine.

The salt baths are accompanied by salty enemata, which favorably influence the acute catarrh of the rectum, and as a part of this enema remains in the rectum, it is reabsorbed and consequently makes more active the circulation of the lymph.

The author experimented with his method in diphtheria always with so remarkable results that he doesn't believe necessary to have recourse to Behring's serum therapy.

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PHILADELPHIA, SATURDAY, SEPTEMBER 12, 1896.

EDITORIAL.

PATENTS AND TRADE-MARKS.

In a recent number of the *Scientific American*, editorial comment upon "patent medicines" presents an aspect of the question which is generally overlooked by the medical profession. It is the distinction between patent medicines and proprietary preparations marketed under a registered trade-mark, the latter, as a matter of fact, being the only truly "secret" remedies. The subject is considered from the standpoint of the business man and patent expert rather than from that of the physician, and the discussion, as abstracted, is of interest to medical men.

The pharmacist, in his mercantile relations, finds a very large portion of his business consists in selling ready-made mixtures, all of which by him are grouped under the term "patent medicines." These include the vast number of proprietary remedies which are of secret composition generally, and are frowned upon by the regular medical practitioners.

The term patent is grossly misapplied in the case of anything secret. A thing patented is a thing divulged. The medical profession very properly objects to secret medicines as opposed to the ethics of their calling, but a medicine patented has its composition disclosed. Any one,

for a nominal sum, can procure from Washington a specification describing its composition.

It would seem that it is not a departure from ethics for a physician to patent any medicine whose composition may involve the exercise on his part of invention; but every physician has his own favorite prescriptions, and the ground thus taken would expose the community to the abuse of innumerable patents for medicines, and prescription after prescription would become the property of some specific doctor.

It so happens that the patent law, which may be treated from some aspects of the case as an embodiment of ethics with numerous decisions of the highest courts to elucidate its doctrines, makes the patenting of a medicine exceedingly difficult. The history of these applications in the Patent Office is in most cases a rejection on formulated grounds. The application generally describes a mixture of well-known medicines. Apt descriptions and characterizations of these mixtures are to be found in official letters from the Patent Office examiner. The examiner will term the subject of the application, perhaps, "an inventory of items assembled regardless of synergistic effects or chemical union." The mixture may be stated to be "merely numerically novel," and as involving only the skill and ingenuity of a pharmacist or physician. The medicine, it will be stated, can be made by any one possessing the skill of a pharmacist or physician, and, therefore, is not the creative work of the inventor. The examiner will require the application to show, in brief, some new and distinctive product having new properties resulting from the compounding. This is rarely shown, and the application is rejected.

So much in line with each other do the numerous applications for patent medicines fall, that the Patent Office has adopted a fixed practice of rejecting all applications for medical compounds which can be regarded as in the nature of physicians' prescriptions, and as descriptive of mere assemblages of well-known ingredients which have well-known effects on the human system. The Patent Office has even gone so far as to use a practically stereotyped form of rejection of those compounds, emphasizing the fact that the proper subject matter of a patent, whatever it is for, must be able to endure the relative tests of the presence of invention as well as of novelty and utility. The majority of these cases are disposed of unfavorably for want of invention, and for being mere aggregations of known things not showing the required statutory elements.

There is, therefore, no mystery attending these cases. It will be seen that they fall exactly into line with applications for mechanical devices. In them, as in mechanical devices, one great proof of invention is the presence of a true combination of parts as distinguished from an aggregation. A distinctly new result must be shown. In a case of mechanics, it is obvious that the showing a new result is far simpler than in the case of a medicine. The results of a medicine have to be demonstrated on so complicated an organism as the human frame, and the subjective element preponderates in the trial. In other words, the result produced depends largely upon the subject upon whom it is tried. It is, therefore, very difficult to prove the presence of invention] by results. Even in mechanical cases this is often not the easiest thing to do, but when the human system becomes the subject, it is a hundredfold more so.

There is, however, an indirect species of protection open to the devisor of a prescription or a formula which is unpatentable. This is afforded by the trade-mark laws. Under the provisions

of this law, one may register a trade-mark in connection with his compound and thereby obtain standing in the United States courts for protection for the use of such title, *prima facie* evidence of which will be afforded by his letters of registration. Some trade-marks are enormously valuable, the business energy of their proprietors having made a simple name worth many thousands of dollars. The right of protection in the use of a trade-mark rests in the common law, but the registration of it by a competent patent solicitor, of course, immensely increases its value.

Here another error is frequently made. Many applicants imagine that a trade-mark in some mysterious manner protects them in the use of a compound or preparation. This it does not do. It protects them in the use of the *name* or trade-mark designation. It is only indirectly that it can protect them in the *thing* bearing its trade-mark, imitation of which might be shown to indicate a desire on the part of the competitor to copy the appearance of the article and hence to trench upon the trade-mark.

The United States Patent Office is ready to grant letters patent for medicines which fulfil the statutory requirements. In foreign countries this protection is often refused, the statutes forbidding the granting of patents for such compounds.

It may be an open question in professional ethics whether a physician should patent a remedy, assuming that he has one which is patentable. Synthetic medicines, prepared by chemical processes, often coal tar products, are now invading the field of Nature's simples, and it is possible that there may yet be a number of patentable medical compounds invented to replace quinine and other vegetable alkaloids and extracts. But now, of all the so-called patent medicines, very few are really patented, but they are supposed to be, and often are, of unknown and secret composition. Protection by patenting, which involves disclosure of their composition, is the last thing their proprietors would think of. It is such *secrecy* that is opposed to every fundamental principle of medical ethics.

CORRESPONDENCE.

MEANS OF DIAGNOSIS EMPLOYED IN THE BERLIN POLIKLINIK.

EDITOR MEDICAL AND SURGICAL REPORTER:—Through the courtesy of Prof. C. A. Ewald, I recently had the privilege of visiting the Poliklinik of the Augusta Hospital.

This hospital is named for the Kaiserin Augusta who, in 1866, presented a part of Invaliden Park to the "Ladies' Aid Society," with an indorsement. In 1868, a beautiful brick building was erected. The hospital has at present a capacity of 200 beds, where surgical and medical patients are treated.

This largely-attended Poliklinik is under the supervision of Prof. Ewald's first assistant, Dr. Leopold Kuttner, and, in all probability, there is no place in the world where diseases of the stomach and intestines are so thoroughly and systematically disposed of as here, and, on this account, we can always find physicians from all parts of the globe working in its different departments. Patients with obscure symptoms are sent here from the whole empire for a diagnosis. Last year, over 27,000 patients were treated.

The methods of diagnosis in these cases, which have been under the charge of prominent physicians, are very interest-

ing. The history is carefully taken and an examination of the lungs, heart, urine, etc., is made before the abdominal organs are considered, and it is here that skill is chiefly displayed. It is surprising to see how highly sensitive the hand becomes after the practice of palpation, which is one of the main roads to the diagnosis of abdominal disease. Prof. Ewald concludes, that when a patient gives all the symptoms of carcinoma of the stomach, and he cannot palpate a tumor, the neoplasm must lie so deep in the peritoneal cavity that an operation is more than useless.

I remember a patient with a tumor which was easily palpable, two and one-half inches below and to the left of the xiphoid appendix. The question arose as to whether the tumor was in the anterior wall of the stomach or behind the stomach. This was quickly determined by inflating the stomach with a double-bulb air apparatus, which gave tympanitic resonance of the entire organ, and the growth was not perceptible by palpation.

The question often occurs how to differentiate between a tumor of the right kidney and tumor of the liver, which is quickly decided by inflating the rectum and colon. If the tumor is of the kidney, the inflated intestines lie in front of the kidney and we have tympanitic resonance; if the tumor is of the liver, it is rendered more prominent, being forced anteriorly by the inflated colon, and dullness occurs a percussion.

Gastrodiaphany is at times very valuable, as by it the stomach can be easily outlined. Much assistance is rendered in the diagnosis of dilatation, dislocation and tumors of the stomach. At times the symptoms of a given case are so obscure that the chemical, microscopic and spectroscopic examination of the gastric contents and feces is necessary to solve the problem.

It frequently occurs that the abdominal muscles are so rigid that it is impossible to make a thorough examination, and in these cases Prof. Ewald resorts to chloroform.

The differentiation between a tumor of the stomach and of the liver is at times perplexing, as they both, contrary to the books, move with the respiration, but you can fix tumors of the stomach, while the opposite is the case with growths of the liver,

CHARLES D. AARON, M.D., Detroit.

Berlin, July 25, 1896.

ABSTRACTS.

WHAT IS THE BEST METHOD OF MAKING AND OF CLOSING THE CELIOTOMY INCISION?*

In presenting this short paper to the Society this evening the writer has a two-fold object. The first is to elicit a comparison of views as to the preferable method of making as well as of closing the celiotomy incision; the second is to afford the writer an opportunity for recantation.

A little over three years ago, the writer warmly advocated the use of the buried permanent suture, silk-worm-gut being the material of preference, and thought he had found in its successful use the solution of the question of how to prevent hernia after abdominal operations. To accomplish this object, primary aseptic burial of the silk-worm-gut was, of course, an essential, suppuration in the wound, as after the employment of any method of suture, rendering the obtainment of a cicatrix firm enough to resist intra-abdominal pressure a problematic matter. Now while, with comparatively rare exceptions, able to obtain this necessary primary union, the writer in the course of time found that the suppurative possibilities did not invariably terminate with the discharge of the patient, say three to four weeks after operation, with an aseptically

*George M. Edebohls, A.M., M.D., New York, before the New York Obstetrical Society, February, 1896.

healed wound. In a number of cases suppurating sinuses, leading to or from a buried silk-worm suture, formed three months, six months, a year, and in one case even two and a half years after primary aseptic burial of the self-same suture.

Proof was thus forthcoming, in the course of time and in the shape of resurrected buried sutures, that aseptic burial and primary union did not always end the matter. The aseptically-buried silk-worm-gut suture did not always remain as an innocuous and encapsulated foreign body in the tissues, but in about five or ten per cent. of all sutures thus aseptically buried at the time of operation, the suture at a more or less remote period caused suppuration, and, either with or without extraneous help, found its way to the surface and was discharged.

Even this disagreeable side effect might possibly have been endured if only all those patients in whom the suture remained permanently and aseptically buried could be guaranteed absolute exemption from hernia; but time and experience has destroyed illusions in this respect also. I have had two cases in which hernia, in the shape of a diastasis of the recti muscles along the whole length of the wound, followed median celiotomy incisions closed by the buried suture of silk-worm-gut, embracing fascia, muscle and peritoneum. In one case three out of eight buried sutures used were removed four weeks after operation; in the other case all the sutures remained aseptically buried. The tissues forming the margins of the original wound on one side, the fascia and muscle, had gradually pulled away from the embrace of the suture, the latter cutting through on one side to the median line. A hernial aperture was thus established, extending the whole length of the cicatrix, its margins being formed by retracted muscle and fascia on either side. All the loops of the buried silk-worm-gut sutures were felt hanging intact in a row in the muscular and fascial border of one side of the hernial aperture. A subsequent radical herniotomy performed upon each case verified this palpatory diagnosis.

The buried permanent suture accomplishes no more than the buried suture which will maintain its integrity for six weeks or thereabout and then disappear by absorption, without the attached possibilities of suppuration months and years after operation.

Having decided to abandon the buried permanent suture for the closure of the celiotomy incision I, for a while, felt somewhat embarrassed for a substitute. Previous to taking up the buried permanent suture, I had tried about all the various methods and suture materials in vogue at the time, and had felt that there were shortcomings inherent to each method. In fact, this very feeling of dissatisfaction with the various methods of closing the abdominal incision had led to the adoption of the buried permanent suture.

Two requisites are absolutely essential to a satisfactory up-to-date closure of the celiotomy incision. The first of these is accurate and nice approximation and coaptation of homologous structures, so that the cut edges of peritoneum, muscle, fascia and skin on one side of the wound will each heal to the same tissues of the opposite side. The second requisite is retention of the parts in apposition until firm union has occurred—union strong enough to withstand intra-abdominal pressure without yielding. This will require, to be on the safe side, from five to six weeks; if by the end of that time, the organic union of the tissues is not sufficiently strong to be self-supporting, no suture and no abdominal supporter, no device of any kind, will prevent diastasis in the line of union and the formation of a hernial aperture.

To retain the parts in apposition for from five to six weeks, two principal methods can be employed. Through and through sutures, embracing all the tissues and tied upon the skin, to be removed in from five to six weeks; or buried animal sutures, which will disappear by absorption at the end of that time. Or a combination of these two principles may be practiced. The through and through sutures have two principal disadvantages: First, it is difficult, if not impracticable, by means of this method alone to secure accurate coaptation of homologous structures, throughout the entire depth and extent of the wound. Secondly, we generally

discharge our patients three to four weeks after a celiotomy, and it is desirable to have them leave with wounds definitely healed, and requiring no further attention in the way of dressings and removal of sutures.

The buried animal suture, so prepared as to maintain its integrity for about six weeks and then to disappear by absorption, is the *desideratum*. The writer, after much experimentation, has succeeded in learning how to chromicize catgut so that it will satisfactorily meet these requirements. Kangaroo tendon is the chief rival of catgut as a buried animal suture. Some two years ago, I employed kangaroo tendon systematically for a time, using it both for buried and for superficial suturing. As compared with catgut, I found kangaroo tendon to possess these disadvantages: 1. Its very high price. 2. The uneven thickness, not only of different strands, but of the same strand at various parts of its length. 3. Limitations of use imposed by length of strands. Kangaroo tendon cannot be obtained of sufficient length, say a metre, for a fairly long, running, buried suture. The great advantage claimed for the kangaroo tendon is its longer resistance to absorption. This is, however, only a relative advantage, which disappears entirely after one has learned how to chromicize catgut so that it will last a desired length of time. I have used only the non-chromicized kangaroo tendon, and have made comparative tests of absorption by using it alongside of non-chromicized catgut, of the same thickness, in the same wound of the same patient. The result showed an increased resistance to absorption of not more than twenty-five per cent. in favor of the kangaroo tendon; that is, if a given thickness of catgut was absorbed in say eight days, kangaroo tendon of the same thickness would disappear in ten or eleven. To make kangaroo tendon last sufficiently long for our purposes, say about six weeks, it must be chromicized, and if we must chromicize, let us chromicize the preferable suture material of the two, the catgut.

I have use in my work for the two smallest sizes only (Nos. 0 and 00) of chromicized catgut, which I invariably chromicize and sterilize personally.

Buy the raw material, catgut Nos. 0 and 00, in coils five metres long, of an importer of jewelers' supplies. Avoid the fine, white, smooth, alluring catgut sold for surgical use. The smoothness and finish are obtained at the expense of strength of material, the sandpapering process thinning and weakening the catgut in spots, and the chain is no stronger than its weakest link. Cut and remove the small pieces of catgut tied around each coil to keep it in shape.

Place the catgut in ether to extract fat. It may be left in ether any length of time—days and weeks—until convenient to proceed with the further steps of preparation.

Remove the catgut from the ether, and allow it to dry thoroughly.

To chromicize to the desired degree, place the catgut for thirty hours in the following solution: Bichromate of potash, 1.5 gramme; carbolic acid, 10 grammes; glycerin, 10 grammes; water, 480 grammes. Dissolve the bichromate of potash in the water; then add the carbolic acid and glycerin.

Before placing the coils in the solution, arrange them upon a central core or cylinder, of nearly the diameter of the interior of the coil, to prevent entangling and snarling of the catgut as it swells and becomes twisted in the solution.

After thirty hours remove the catgut with and upon the core from the bichromate of potash solution, and immediately wind it upon a frame, stretching it pretty taut. I use a wooden frame, resembling a curtain-stretching frame in miniature, one metre in length, which is the length I find it convenient to have catgut sutures. The catgut is stretched upon the frame for the twofold purpose of convenience of drying, and to prevent the curling and kinking which obtain when catgut has been soaked in water and dried without stretching.

The drying must be done at a temperature not exceeding 40° to 45° C. If higher temperatures are risked, the moist catgut may gelatinize; it then becomes so brittle as to be absolutely worthless. The drying should be thorough, and the process should extend over a space of time of several days. If

the least moisture remains in the interior of the catgut, it will surely gelatinize and render brittle and worthless the catgut when raised to high temperatures in the process of sterilization to follow. This thorough drying after chromicizing is, I repeat, absolutely essential to obtain a useful product.

In chromicizing catgut, bear in mind that nothing is easier than to overchromicize, so as to make it practically non-absorbable. The difficulty lies in chromicizing it to last just the required time, and the method just detailed is the result of much and somewhat costly experimentation. Catgut No. 0, chromicized as above, will resist absorption for about six weeks.

The chromicized catgut is now ready for the process of sterilization. I prefer sterilization by boiling in absolute alcohol under pressure, as having yielded stronger and more satisfactory material, without thereby meaning to impugn the value of dry or of other forms of moist sterilization.

After the chromicized catgut is thoroughly dry, it is cut into pieces one metre in length. These pieces are rolled on a finger into small coils which need not be tied, and which are packed nicely into one-ounce glycerin jelly jars, about twenty coils to the jar. Absolute alcohol (Squibb's 99.8 per cent.) is poured over the catgut in each jar until full, a properly-fitting rubber washer is placed inside the metal cap, and the latter is screwed down fluid-tight. The glycerin jelly jars are then placed standing in a large anatomical jar, containing from two to four ounces of absolute alcohol.

Two, or even three layers of the glycerin jelly jars, may be placed on top of each other in the anatomical jar. The cover of the latter is now also screwed down air- and fluid-tight, and the whole is ready for the sterilizer. I have always used an Arnold sterilizer, in which the large anatomical jar, filled and sealed as above, is placed, and the sterilizer started. The boiling point of alcohol is 78° C. The atmosphere of steam at 100° C. and the firm closure of the small jars, as well as of the large anatomical jar, secures the boiling of the catgut in absolute alcohol under pressure. The arrangement probably also diminishes the danger of explosion and of ignition of the alcohol vapors. The catgut is boiled in absolute alcohol under pressure for five hours, when the cover of the Arnold sterilizer is removed, and the anatomical jar with its contents allowed to cool gradually. The alcohol, of course, will keep on boiling until the temperature falls below 78° C. Readjust some of the rubber washers and fill some of the jars with absolute alcohol, to replace that lost in the process, and your catgut is ready for use.

Chromicized catgut prepared in this way does not decompose or change in absolute alcohol; the combination of the chromic acid with the catgut is an organic one, and is not affected by the alcohol. Catgut thus chromicized and sterilized remains strong, sterile and unimpaired in quality for years.

I have been thus prolix in describing the details of the processes of chromicizing and of sterilizing catgut, because I found that only by faithfully adhering to them have I been able to obtain the satisfactory suture material which I now possess. Even some of those engaged professionally and in a mercantile way in preparation and sterilization of suture material have admitted to me their inability to produce a satisfactory sterilized chromicized catgut.

Each lot of catgut thus prepared is first subjected to bacteriological test, and, if found sterile, as it invariably has been, is kept under lock and key to prevent possible tampering with. At an operation the quality of catgut estimated as probably being wanted is taken out of the jars. No catgut, however, after being once removed from the jars, is again put back.

The clinical test has proved almost equally satisfactory. For instance, for four months and a half, I have used absolutely nothing but catgut for ligatures and as buried sutures in all of my abdominal work, both hospital and private, and have not had a death from any cause, and no deep infection. Two cutaneous stitch abscesses following shortening of the round ligaments, both occurring in the same one of the two hospitals with which I am connected, are the only untoward occurrences I have had. They were both probably

ascribable to some little slip in antisepsis and not to the suture material.

I have given up trying to make the celiotomy incision exactly in the median line, but, with a number of other operators, prefer to make it through one of the recti muscles, a little to one side of the median line. The purpose is to get bare muscle surfaces on either side of the wound, which, when brought together by suture, will help by the strength of their union to make the cicatrix just that much stronger. If I have perchance hit the median line exactly, not exposing any muscle, I deliberately before closing the wound, split the sheaths of the recti on both sides by incising them along the entire length of the wound. The incisions are made along the inner edges of either muscle, and extend somewhat into the substance of the muscles themselves, so that when completed we have presenting toward each other at the median line two large muscular surfaces, each lined anteriorly and posteriorly by cut fascia. Instead of a single fascial margin on each side to approximate and depend upon for union, we have, after this flap-splitting process, two fascial margins plus a large muscular surface on either side, with greatly increased strength of the resultant cicatrix. The rule, then, in making the celiotomy incision, is either to incise through one of the recti, or, if we have failed in this, then to open the sheaths of the recti on either side so as to expose large muscular surfaces and two fascial edges on either side for union.

The edges of the wound are thus prepared for union to the greatest advantage with a view to strength of the resultant cicatrix. The running suture is to be preferred to the interrupted suture for the following reasons: By means of the running suture it is possible to bring together homologous structures more accurately, and, I believe, more quickly than by interrupted sutures. In the next place, the number of buried knots is decreased—indeed, is generally limited to one knot. This is a somewhat important matter, as no doubt the knot is the most undesirable thing about the buried suture, the bulk and local aggregation of suture material rendering knots foreign bodies, the presence of which in great number the tissues resent by an attempt at extrusion.

To tie catgut so that it will remain tied, even under tension, when buried in the tissues, a single turn is first made and drawn tight; this is prevented from slipping by the assistant grasping it with forceps until the operator completes the second turn by a friction or double knot, made by interlacing the two ends twice before drawing taut. In other words, the first half of the knot is tied as a single and the second half as a double or friction knot, exactly reversing the more common order. As catgut is somewhat elastic, it should be drawn very tight in knotting.

In uniting the celiotomy incision by the buried running suture, the following method is employed:

Beginning, let us say, on the left side of the upper end of the wound, at from one-half to one centimetre from the fascial margin, the needle, at the first thrust, is carried through fascia, muscle and peritoneum. Emerging on the opposite (right) side, peritoneum and muscle only are embraced in the suture, the fascia not being included. The suture is then continued as a running suture, embracing peritoneum and muscle only on both sides of the wound until the lower end of the wound is reached. The last loop embraces muscle and peritoneum only on the left side, while on the right it is carried through peritoneum, muscle and fascia. The deep suture is now completed, and the catgut is carried back as a running suture, whipping together the fascial edges until the upper end of the incision is reached, where it finally emerges from the fascia on the right side. The two ends of the suture are tied together over the fascia in the manner already described, constituting the only buried knot. Whipping the edges of the skin together by small over-and-over stitches, or by the subcutaneous suture of ordinary catgut, completes the closure. The fat is not sutured; it falls into juxtaposition and takes care of itself. After pressing out any air that may have been imprisoned in the fatty layer while suturing the skin, the dressings are applied.

One catgut suture, a metre in length, and consequently one knot, will suffice to close an incision five inches or less in

length. Should the incision exceed five inches in length, it is closed in two sections, calling, of course, for two buried knots.

If the recti muscles have been laid bare by slitting their sheaths along the inner border, so as to make two fascial borders on each side, one anterior and one posterior to the muscle, then the posterior layer of fascia is included with the muscle and peritoneum in the deep ties of the buried,running suture.

In case it be desirable or necessary to perform ventral fixation of the uterus, in closing the celiotomy incision, the spot is first ascertained where the fundus uteri fits comfortably against the abdominal wall. When that point of the incision is reached by the deep running suture uniting muscle and peritoneum, three loops of the suture, in addition to joining these tissues, are made to secure the uterus by being carried into and across the fundus. These three sutures, or rather three loops of the same suture, are arranged in such a way that the middle one pierces the uterus just between the points of origin of the tubes, the upper one being carried through the fundus a little behind and the lower one a little in front of this point.

This method is believed to possess these advantages:

1. Accurate coaptation of homologous structures.
2. The use of minimal quantities of buried suture.
3. Avoidance of all superfluous buried knots.
4. The suture is nowhere interposed between two raw surfaces which should unite.
5. The presence of the suture only so long as it is actually needed.
6. Removal of sutures becomes unnecessary.

The principles enunciated are applicable with equal advantage to wounds made in other parts of the abdominal wall.

The scars obtained by this method of making and of closing the celiotomy incision are characterized by palpable thickness and solidity, not only on the discharge of the patient from the hospital, but months afterward. After employing it exclusively for the past fourteen months I have yet to learn of a case of hernia following its use. I allow my patients to get up in from two to three weeks after a celiotomy, according to the nature of the particular case.

THE END OF QUACKERY IN BELLEVUE HOSPITAL.*

During the past two months there has been carried on in Bellevue Hospital by the Commissioners of Charities, bound by oath to administer the charity hospitals of the municipality to the greatest benefit of the suffering sick, such a piece of quackery against its patients, and thereby there has been offered such an insult to the medical profession and the intelligent members of the community, as, it is hoped, will never again occur.

The demise of the "drink cure" experiment is now chronicled with becoming satisfaction, and it is hoped a full account of the obsequies which the commissioners are giving the corpse will soon be given the public. The discovery and exposure of the fact that the "cure" was backed by an incorporated, capitalized company brought to light the true inwardness of the undertaking. The consternation of the commissioners occasioned by this exposé was such that it was believed they would see the error of their way and immediately discontinue the experiment. But they have seen fit to persist in their arbitrary course, and in spite of the repeated admonitions of those who could foresee the result, they have continued in their insane efforts until they have made themselves not only ridiculous, but infamous. Now they have no credit and no thanks from anyone for the cessation of the experiment. "The cure has succumbed from natural causes," so say the commissioners, and they are desirous of burying it without an autopsy. Monsters and abnormalities

*The *Medical News*, August 22, 1896.

of all kinds interest, however, and we purpose looking into the immediate cause of dissolution in this case.

For the past month the spurious visiting physician to Bellevue Hospital has been very derelict in his duties; in fact, for two successive weeks of that time he did not favor the institution with his presence. During this period, the spacious hospital wards, which had been placed at his disposal, were useless, and the suffering sick were excluded, and that too, at a time when the heat was the most trying and the demand for succor the greatest. To the shame of the commissioners, be it said, that during a crisis that called for instantaneous and unequivocal action, they remained as impassive as though they themselves had been seized upon by the *rigor mortis* that had already laid hold of their darling foster child— the subsidized drink cure. Even the warden of that institution, he who spoke from the depths of personal medical wisdom two days after the "cure" was instituted and proclaimed it "a Godsend," when informing the president of the honorable board of commissioners of Dr. Oppenheimer's dereliction frankly confessed his inability "to comprehend the situation in its present advanced form."

Even though the commissioners hesitated at this juncture to revoke the privilege granted the owner of a secret remedy, they might still have sought and found escape from their predicament by enforcing a law of their own making, that all visiting physicians shall visit the hospital at least three times a week. The ostensible reason for this delay was the desire to give the individual commissioner, who had stood sponsor for the experiment, an opportunity to prepare a report substantiating, as far as possible, his advocacy of an experiment which he and his fellow-commissioners knew in their inner consciousness was utterly futile; for failures, and numbers of them, are within their personal knowledge. The real reason, however, which they endeavor to conceal, was the hope that their critics would tire of their onslaught upon them, and when the subject had ceased to figure in the eye of the public, they could slip out of their unfortunate position without observation or comment.

Now, however, we call upon the Commissioners of Charities to put upon record their opinion of the pitiable and ignominious failure of their first effort in experimental medicine, and insist that it shall be couched in such language that, at least, he who reads between the lines, may detect their sincere sorrow and regret for their conduct. If they do not do this, we shall feel, so long as they remain in office, that being dominated as they now appear to be by their impulses and emotions, we shall not be secure from future trials of whatever silly fad they, their families, or their advisers may happen to embrace, whether it be Christian science or the Kneipp cure.

The real shortcoming in the present Board of Charities Commissioners is that they are boys in reality, although the mayor would have us believe that they are "boys" only by his facetiousness.

PERISCOPE.

The diagnosis of hypertrophic pulmonary osteo-arthropathy and acromegaly is discussed in the New York *Medical Journal* by Thayer, and illustrated by clinical histories and photographs of four cases. Three of these belong to the former disease, better called secondary hyperplastic osteitis by Arnold. In one the conditions followed a general bronchitis with effusive pleurisy; in the other two empyema was present, in one associated with bronchiectasis. The fourth case was one of acromegaly without apparent cause. The main points in the differential diagnosis are: In hypertrophic pulmonary osteo-arthropathy there are few or no changes in the face, the skin, nose, lips, orbital ridges, and lower jaw being practically unaffected; a certain amount of thickening of the alveolar border of the upper jaw has occasionally been described. The almost constant cervical kyphosis of acromegaly is also wanting; when kyphosis occurs it is usually in the lower dorsal or lumbar regions. Again, while the hand in acromegaly is enormous, with great thickening of the skin and soft parts and deep furrows, that of the other disease is much deformed as well, the terminal phalanges and wrists being much enlarged, while the carpal and metacarpal

regions are but little affected. In the latter, also, the nails are pink and curved, producing the typical Hippocratic fingers, whereas in the former the nails appear small owing to the general broadening and thickening of the fingers. In acromegaly the long bones of the forearm and leg are but little changed, or more or less symmetrically thickened; in pulmonary hypertrophic osteo-arthropathy there is a most striking increase in the size of the bones toward their epiphyses, more particularly at their distal extremities. Finally the former process is purely secondary, usually to a lung affection, while the latter is a well-marked disease by itself.

Successful results have been obtained in heart disease accompanied by disturbance in breathing, severe disturbances in the circulation, ascites, edema, albuminuria, and hypertrophied heart and liver, by Maldarescu, through the use of calomel. (*Therap. Woch.*) He gives it in six powders, with sugar, 0.10 gram every two hours during the day, for two or three days, following this with 0.10 to 0.20 gram a day for a few days after, when he then commences potassium iodid. Enormous ascites and edemas vanish with this treatment, and even patients in complete cyanosis are restored to comparative health. He ascribes the wonderful action of the calomel to its effect on the liver. It relieves the congestion, and thus restores the circulation in the important portal and liver veins, which exert a favorable influence on the entire circulation and cures some of the complications, while it relieves all. The gums are frequently affected by the calomel, and he orders a mouth wash from the first, consisting of potassium chlorate 10.0, tannin 0.25, aq. dist. 350. He limits his patients to a milk diet during the treatment, and warns them afterward to refrain from alcohol and excessive exertion, and restrict themselves to a light diet, and persist in the use of potassium iodid. He has treated 107 cases, with five deaths of those that were *in ultimis*, and nine other deaths, all of elderly persons in advanced stages. He notes that the calomel has also the advantage that after it other remedies produce their best effect. He scouts the idea that calomel can form sublimate in the alimentary canal, as a very elevated temperature is required for this.

Startling doses of Cerium Oxalate are reported by W. J. Craigen, in the *Medical World*. The case was one of slow fever, complicated with acute gastric catarrh, frequent loud eructations of gas, nausea and troublesome nervous symptoms in a thin, anemic, married woman, aged forty. He was giving her five to ten-grain powders of oxalate of cerium (a favorite remedy) to quiet the nausea. She took this with such avidity, licking up the smallest quantity which fell on her clothing, that he attempted to satisfy her appetite for it. Accordingly, he threw half an ounce of the oxalate in a dry goblet, and, placing a teaspoon in the goblet, handed it to her and bade her help herself. She ate this in six hours, and would have eaten it in two had the family permitted. No apparent effect was noticeable. She said it made her feel more comfortable. In the past two months she has eaten five ounces of oxalate of cerium, and still continues it. During the same time she has also eaten an equal quantity of subnitrate of bismuth. She says there is a particular satisfaction in passing her tongue over these dry powders. She also acknowledges taking pleasure in drinking solutions of alum.

A late fad in medicine seems to be the decrying of the use of drugs, and it is really somewhat unusual in this day to find a practitioner of large experience proclaiming boldly his belief in the efficacy of drugs, since this may lay him open to the charge of not being fully up with the developments of modern medical science. Dr. William Gowers, of London, in a recent article in the *Medical Record*, calls attention to the fact that a great many of the non-medicinal measures for combating human ills, which are now so frequently recommended, cannot really be used by the every-day practitioner. The patients whom he serves cannot afford to take rest, to travel, to spend two months at some "cure," to inhale oxygen, to undergo massage or elaborate methods of hydro-therapeutics or of mechanical therapeutics. They cannot afford even, in many cases, the dietaries which are often so highly approved; and, on account of their daily work, almost the only means of help outside of surgery is, in many instances, some medicine. The point made by Dr. Gowers is that the average practitioner does do a great deal of good with his drugs, and that they really have efficacy in lessening the severity and the mortality from disease.

Much of the crude cannabis indica that is on the market is lacking in physiological strength, and a large proportion is entirely inert, according to the *Bulletin of Pharmacy*. Of the samples which have lately come under the observation of that journal a number have proved, when subjected to physiological test, to be utterly unfit for manufacture into pharmaceutical preparations, although superficially they appeared to be of excellent quality. But the most striking instance of the kind was one which recently occurred in the laboratory of Parke, Davis & Co., involving the rejection of 1200 pounds of very nice-looking cannabis indica "spikes." A sample of the lot was submitted to their pharmacological department for a test on animals. To each of four dogs a large dose was administered, without any reaction. The dose was gradually increased to an enormous multiple of the usual quantity, and yet no reaction followed. The next day the experiments were repeated with a solid extract prepared from the same parcel; the same negative results were obtained. A jar of solid extract Indian cannabis, previous-

ly manufactured, was then taken from stock, and a small dose administered to the canines; the reaction was prompt and unmistakably characteristic of the drug. In such a case the chemist is helpless, and the only safeguard against the employment of a nice-looking yet really inert drug is a physiological test on animals. Such experiments will continue indispensable until chemical investigation has succeeded in learning something definite with respect to the active principles of drugs about which, as yet, little is known.

Lumbago, which has in so many cases proved a bugbear to the general practitioner, is discussed by Albert Robin (*Am. Jour. Med. Sciences*). He mentions the various local applications with friction, which have been used from time immemorial, revulsives, counter-irritants and wet cups. Of the applications, massage of the joints, electricity, particularly for the secondary muscular atrophy, and methylchloride for the acute stage, are especially mentioned. For the internal treatment, jaborandi is most strongly recommended. As contra-indications to its use should be cited disturbances in the cardiac rhythm, and it should be omitted if epistaxis or the quantity of urine does not reach the normal amount after diaphoresis. The method of preparation is as follows: Sixty grains of the leaves are macerated for twelve to twenty-four hours in two and one-half drams of alcohol. Upon this mixture is poured one and one-half ounces of boiling water, which is infused for twenty-four minutes and then filtered. The filtrate is taken hot, as it is prepared, in the morning, fasting. During the perspiration, the patient should avoid swallowing the saliva, which may give rise to nausea or even to vomiting, and for the thirst he should drink only a small quantity of warm liquids, diluted coffee, in order to avoid the vomiting which follows the immoderate ingestion of cold liquids or the swallowing of a certain quantity of saliva. There are instances when a single dose of the remedy will cure the disease. In case it is necessary to repeat the treatment, it is well to have a day of intermission between the doses. The patient should be kept warm, confined to his room or even in bed. In case that this remedy is contra-indicated, sodium glycero-phosphate, five to seven grains hypodermatically, can be substituted. In certain cases, when the articulations are affected, sodium salicylate may be used, but it is not so valuable as is jaborandi.

Typhoid fever, without pyrexia, is most difficult of diagnosis, and is fortunately of very rare occurrence. Svehla (*British Medical Journal*) reports a case of apyrexial typhoid fever in which the diagnosis was confirmed by the discovery of the bacillus of Eberth in the blood and urine. The patient was a boy aged six; his two brothers, aged respectively ten and four, were attacked with typhoid fever a few days after his illness began. The patient had been ill for a fortnight (vomiting and diarrhea) before admission to hospital. He was drowsy and emaciated, and the extremities were cyanotic and cold. The tongue was dry and coated. The motions were liquid, brown and offensive. The spleen was not enlarged; the urine gave the diazo-reaction, and the reaction persisted for a week longer. The patient then improved, and left the hospital, but subsequently had a relapse. The temperature never exceeded 99.2 while in hospital. Svehla states the cultivations of the bacillus of Eberth in broth give the diazo-reaction, whereas those of bacterium coli commune do not.

The American Pediatric Society has chosen the following officers for the coming year: President, Dr. Samuel S. Adams, Washington; first vice-president, Dr. W. S. Christopher, Chicago; second vice-president, Dr. Charles W. Putnam, Boston; secretary, Dr. Frederick A. Packard, Philadelphia; treasurer, Dr. Charles W. Townsend, Boston; recorder and editor, Dr. Floyd M. Crandall, New York; member of council, Dr. William Osler, Baltimore.

Tuberculous glands in the neck can be removed without visible scar, according to Dollinger, through an incision within the hair-line, extending from behind the ear downward and inward. The glands are pressed toward this opening and caught with a hook or long, narrow forceps and enucleated.

Many persons have taken occasion to cast slurs on examining boards, saying that the men on them, not being connected with medical schools, have no experience in such work and ask absurd questions which they themselves would not be able to answer. Others maintain that such tests are not fair. It must be, however, admitted that State examinations are on the whole a great benefit to the profession and to the public, says the *Maryland Medical Journal*. There is attempted an equalization of all graduates and a general standard of all physicians in one State is held. If States could agree on a national board by which any physician could practice anywhere in the United States, it would be a little more fair. In looking over the reports of any board, it is seen that graduates from some schools always stand high, with some exceptions, while other schools show a majority of rejections. The natural conclusion is that all medical schools do not maintain the same standard. If the State board could have additional powers whereby they could demand that schools keep up to a fixed standard and give all the facilities set forth in their catalogues and prospectuses, the number of failures at the State examination might not be so large.